E-Government @ EPA: Accelerating Our Progress Using New Information Technology

At home and in the world around us, we all see rapid, sweeping, and profound advances in information technology. It's no surprise these advances are also changing the way EPA conducts business. Advances in information technology are enabling us to operate more efficiently and share and use data in new ways to more quickly and more substantially meet the public's demand for electronic information, online transactions, and new information management capabilities.

This electronic and high-tech transformation has spawned a concept known as "E-Government." Electronic government is leading to important new ways for EPA to achieve its mission of protecting human health and the environment. In addition to the traditional tools, such as regulations, permits, and enforcement actions, we now have innovative and cooperative mechanisms that will substantially improve how our Agency, the States, tribes and the American people protect our health and the environment.

Led by the "E-Government Act of 2002" and the President's Management Agenda (PMA), EPA is expanding our collaborative efforts to include a wide range of E-Government opportunities. Under the PMA, federal agencies are participating in 25 E-Government initiatives designed to help agencies achieve results by simplifying and unifying common work processes across federal agencies, providing individuals with one-stop access to services, and reducing redundant information collection.

EPA's progress in implementing the PMA requirement for E-Government is closely monitored by the Office of Management and Budget. On a quarterly basis, EPA receives a series of "scores" (progress and status) for the progress it is making in implementing each of the various components of the PMA. When the first scorecard was issued in 2003, EPA began with a "yellow" progress and status score in the area of E-Government. Since that time, EPA has elevated both its progress and status scores to "green." The scoring process considers the following general areas: enterprise architecture; business cases; earned value management; information security; and participation in the PMA defined E-Government initiatives. Presently, EPA participates in 17 of the 25 PMA defined E-Government initiatives.

This short report focuses on a number of innovative accomplishments EPA has achieved to support its mission to protect human health and the environment. Below are case examples on how we encourage public participation, promote compliance, ensure the security of our data systems, and facilitate the exchange and dissemination of quality information.

To learn about the many other examples where the Agency is utilizing information technology to fulfill its mission, including the Agency's participation in many of the specific E-Government initiatives established under the President's Management Agenda, visit our recently released report on "E-Government @ EPA: Accelerating Our Progress Using New Information Technology".

Encouraging Public Participation

The eRulemaking Initiative, mandated under Section 206 of the E-Government Act of 2002, will improve federal agency processes, enhance public participation, and yield more timely regulatory decisions. The eRulemaking Initiative will help overcome barriers to public participation in the federal regulatory process by improving the public's ability to find, view, understand, and comment on regulatory actions.

The first component of the eRulemaking Initiative, Regulations.gov, was launched in January 2003. It provides to the public, for the first time, one-stop access to all federal rules/proposed rules and the capability to submit comments electronically. This collaborative effort included seven agencies and was completed in less than three months. Since its launch, Regulations.gov has received more than 4.3 million hits, 440,000 unique visitors, and 2.5 million pages reviewed and/or downloaded (statistics through June 30).

eRulemaking is, by some accounts, the most highly decorated E-Government initiative, receiving more than 7 major awards, including the 2003 Grace Hopper Award, 2003 eGov Pioneer Award, the 2003 Colborn Award for Innovation in Rulemaking, the 2004 AFFIRM Leadership Award for Service to Citizens, and the 2004 American Association of Law Libraries Public Access to Government Information Award. Winning these awards is a testament to the importance of government-wide cooperation and collaboration.

The next phase of the eRulemaking Initiative will build upon *Regulations.gov* to establish a full-featured Federal Docket Management System, which will expand the capabilities of Regulations.gov (*e.g.*, access to agency support materials – including the ability for the public to see comments submitted on a rulemaking; sophisticated and full-text search capabilities; reporting capabilities). Currently in development, this federal government-wide docket system will serve as a central repository for published rulemaking documents, enabling the public to easily search, access, and comment on all publicly available regulatory materials.

The eRulemaking initiative is also pursuing the development of information technology tools, such as online training for rule writing and public comment analysis software, which agencies may adopt to help their rule writers develop, review, and publish federal regulations.

EPA is proud to serve as the government-wide lead partner for the eRulemaking initiative, recognizing the critically important role citizens play in the rulemaking process. Through collaboration and a strong commitment to reaping the benefits inherent in electronic government, the eRulemaking Initiative has made significant strides toward a more efficient, integrated, publicly accessible approach to the regulatory process.

Compliance Assistance

Through the use of information technology, EPA is helping facilities comply with environmental requirements. One important example is our effort to help facilities understand and comply with the Toxics Release Inventory (TRI) Program reporting requirements. The Toxics Release Inventory (TRI) is a publicly available EPA database that contains information on toxic chemical

releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. This inventory was established under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and expanded by the Pollution Prevention Act of 1990.

The Toxics Release Inventory - Made Easy (*TRI-ME*) software is an interactive, user-friendly, intelligent software that guides facilities through the TRI reporting process. (http://www.epa.gov/tri/report/trime/index.htm) *TRI-ME* asks a series of questions that help determine if a facility needs to comply with the TRI reporting requirements. For facilities that determine they are required to report, the software provides guidance for each data element on the TRI reporting form.

TRI-ME also performs a series of validation checks on the data entered to help ensure that all the data fields are complete and that there are no inconsistencies between related fields on the reporting form. Finally, *TRI-ME* allows facilities to take advantage of an electronic signature feature that enables electronic submission of the completed forms to EPA through the Internet via the Agency's Central Data Exchange (CDX). The CDX is a central point within EPA for collecting, exchanging, and streamlining many distinct air, water, and waste data collection processes.

The use of information technology to create an interactive reporting system coupled with an Internet-based electronic means of submission promotes reporting compliance, helps to reduce reporting errors through software tutorials and data validation checks, and supports an expedited release of data to the public. These information technology tools have significantly aided the community right-to-know obligations under the TRI Program.

Information Security – A Major EPA Success Story

Over the last few years, EPA has demonstrated strong leadership and vigilance in evaluating risks, implementing protections, and certifying the security of its information technology systems. This good news provides a strong contrast to the position EPA was in just a few years ago when we disconnected the Agency from the Internet and subsequently rebuilt EPA's information technology security program.

EPA has implemented strong perimeter defenses in the form of a firewall and intrusion detection sensors. EPA is able to measure the effectiveness of the perimeter defenses by monitoring attacks at the perimeter.

Further, EPA monitors the network to help identify and correct vulnerabilities with a suite of tools to quickly spot evidence of intrusions or other mishaps by auditing activities on our network. By automating our ability to monitor compliance, the Agency can now quantifiably measure progress. Since the initial deployment of BindView, which measures compliance of our local area networks with security standards, the Agency compliance rate has improved to over 90%.

EPA also uses internal scorecards to measure success and communicate progress to the Agency's senior management. By using scorecards, EPA has been able to make a subject that is technically complex understandable to a non-technical audience.

"Securing Government Systems. -- Over the last three years the Federal Government has improved considerably in identifying and resolving long-standing, serious, and pervasive IT security problems. Agencies report both annually and quarterly on their efforts to address IT security weaknesses against key IT security performance measures.

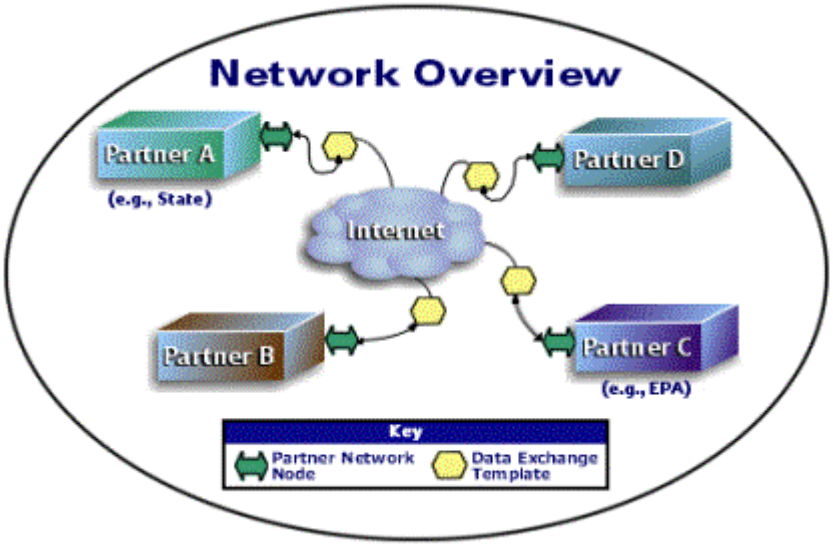
As one example, the Environmental Protection Agency has excelled at protecting their information technology assets. EPA has evaluated the risks to, and certified the security of, its IT systems. Beyond documentation, however, EPA has implemented quantifiable measures of repelled attacks and blocked viruses. Internal scorecards are used to measure success and managers are encouraged to compete for top scores. By focusing on cyber-security, EPA has taken great steps to protect the integrity of the agency."

Analytical Perspectives, Budget of the United States, Fiscal Year 2005, page 160. This document can be found at: http://www.whitehouse.gov/omb/budget/fy2005/pdf/spec.pdf

Sharing Environmental Information across EPA and the Country

The National Environmental Information Exchange Network (Exchange Network) is a new approach that will revolutionize how we exchange environmental data within EPA and among States and other partners. It will foster our ability to use and combine data in ways we have never been able to before.

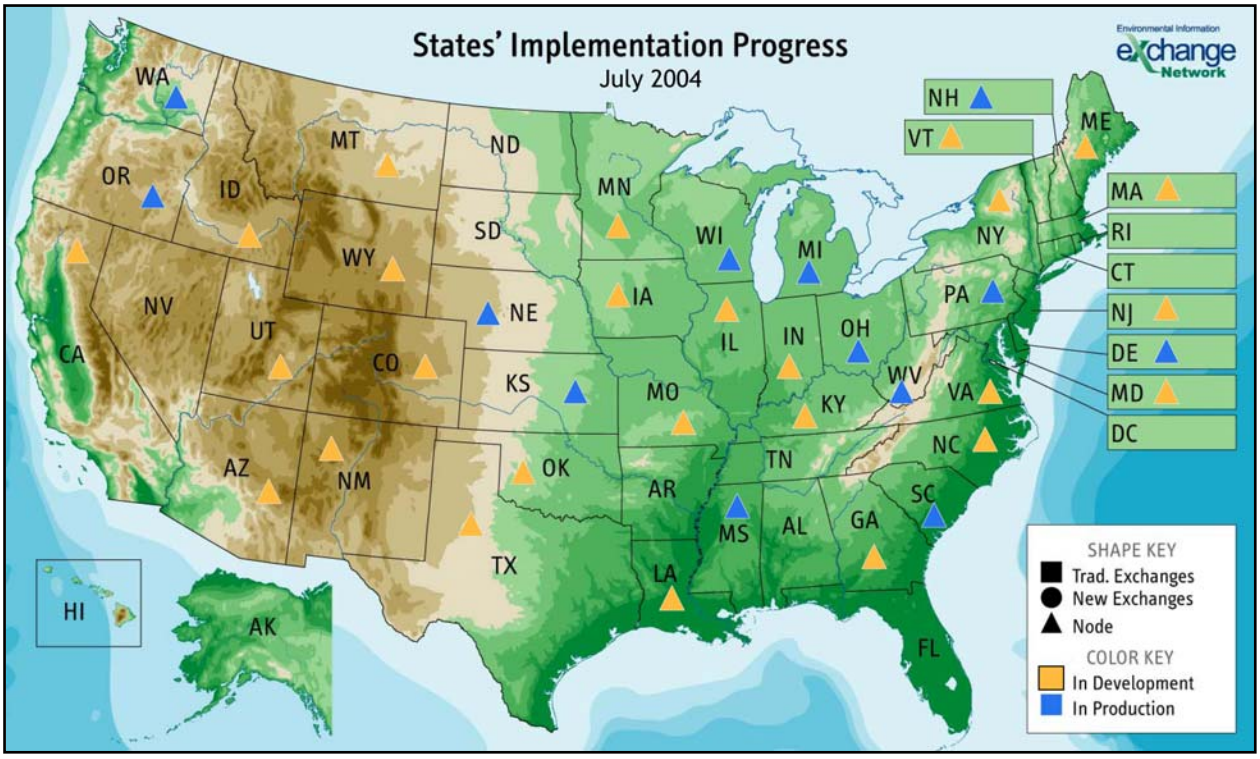
The Exchange Network consists of data exchanges between 'nodes' or portals maintained individually by participating partners (initially envisioned as State environmental departments and EPA). These data exchanges replace and complement the traditional approach to information exchange that currently relies upon States feeding data directly to multiple EPA national data systems. In addition to these historical flows, new flows of additional data (*e.g.*, facility identification) will be established. For more information about the Exchange Network visit http://www.exchangenetwork.net. EXIT disclaimer



Several significant results have already been achieved:

- As of July 2004, 13 states have signed onto the Network.
- Michigan eliminated both paper and a procedural backlog by using the Exchange Network allowing industries in Michigan to report their Discharge Monitoring Reports electronically thus saving Michigan taxpayers.
- New Jersey utilizes the resources available through the Exchange Network to publish—almost instantaneously—beach closure and advisory information on the Web.
- Pacific Northwest states use the Exchange Network to portray regional water quality with an accuracy, quality and timeliness not previously possible.

This map shows States' progress to date in implementing the Exchange Network.



Source: EPA July 2004

Providing Useful Information to the Public

Public information is becoming more and more important to how all of us make decisions in our daily lives. One example is the AIRNow Web site (http://www.epa.gov/airnow).

For millions of Americans with respiratory and other health-related problems, knowing the air quality on any given day is essential to planning their daily activities. In the past, most individuals did not have ready access to air quality information and might have experienced breathing difficulties on days when air quality was significantly impaired.

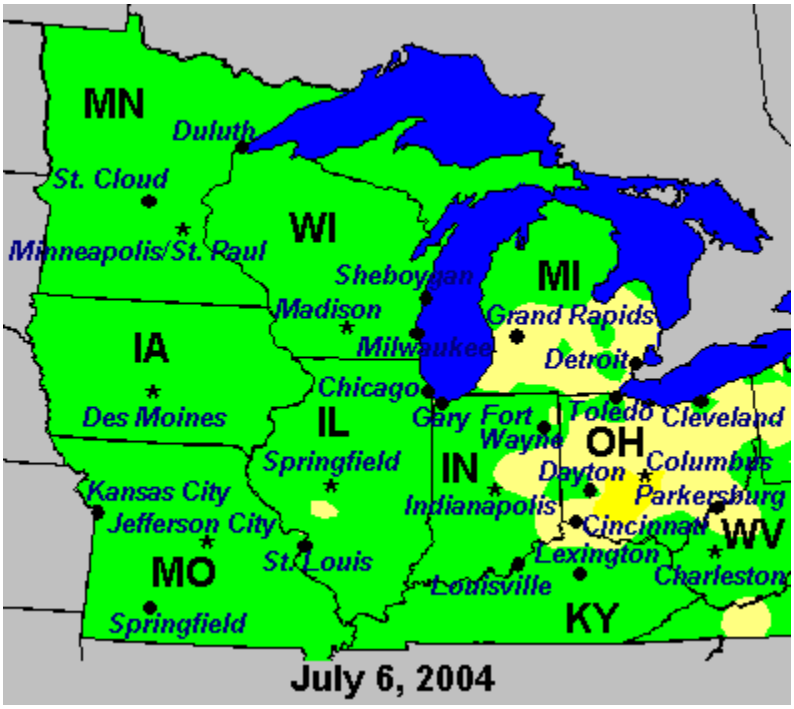
EPA now works with state and local governments to monitor daily concentrations of major pollutants at more than a thousand locations across the country. The results are calculated and reported in the Air Quality Index (AQI), a uniform index that lets you know how clean the air is and how it might affect your health. EPA developed the AIRNow Web site, which houses the AQI, so the public could access daily air quality forecasts and make informed decisions about undertaking outdoor activities.

Through the use of user-friendly features such as charts, maps, the compilation of air quality information from a multitude of sources (including stationary and mobile air monitoring stations across the country), and the provision of real-time air quality data for nearly 300 cities across the

United States, EPA is using information technology to fulfill its mission to protect human health and the environment.

The AIRNow Forecast Submittal System is used by over 100 State and local agencies. Agencies analyze local meteorology and air quality data to produce an air quality forecast, which is then submitted to AIRNow and is made available to the public via the EPA Web site.

Midwest Ozone Maps
1 Hour Average Peak Concentration



1-hour Average Peak Concentration

- 0-60 ppb
- 61-79 ppb
- 80-99 ppb
- 100-110 ppb
- 111-124 ppb
- 125+ ppb
- Data not available

Source: http://www.epa.gov/airnow/showmaps.html?/airnow/2004/20040706/8a-mw.gif

The Rest of the Story

The above examples are just a highlight of the ways we are using information technology to achieve better results in protecting human health and the environment. They clearly show how, in the words of EPA's Administrator Mike Leavitt, "We now utilize the incredible power of today's information technology as part of our comprehensive effort to protect human health and the environment."[1]

We encourage you to read our new report on "E-Government @ EPA: Accelerating Our Progress Using New Information Technology" to learn about other E-Government initiatives and the Agency's commitment to information technology as an indispensable tool for protecting human health and the environment.

Endnote

1. p. i, "E-Government @ EPA: Accelerating Our Progress Using New Information Technology", (EPA, June 2004).